

Trend Study 10R-5-00

Study site name: Lower Tom Patterson Point.

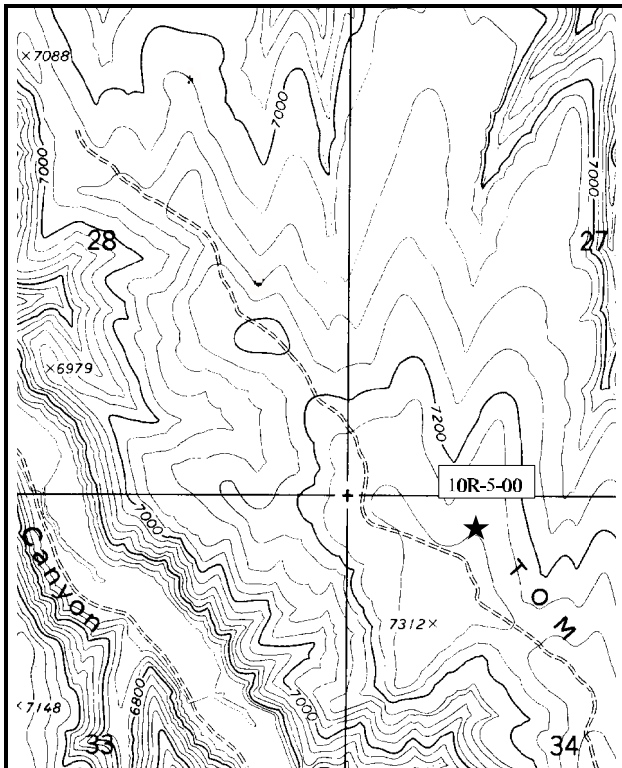
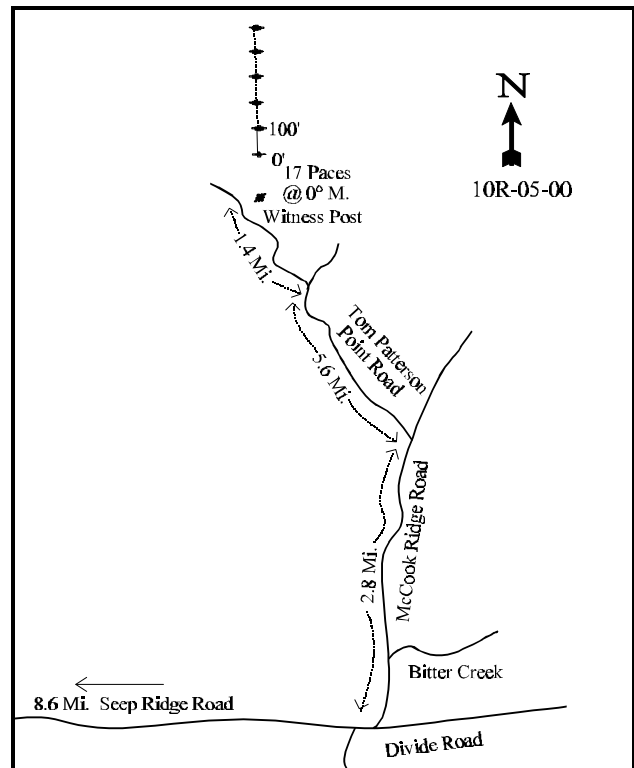
Range type: Chaining-Burn .

Compass bearing: frequency baseline 0 °M.

Footmark (first frame placement) 5 feet. Frequency belt placement; line 1 (11ft), line 2 (34ft), line 3 (59ft), line 4 (71ft), line 5 (95ft).

LOCATION DESCRIPTION

From the intersection of McCook Ridge Road and Seep Ridge Road travel north on McCook Ridge Road for 2.8 miles. Turn left onto Tom Patterson Point Road and go 5.6 miles to a fork. Take the left fork and travel 1.4 miles to a witness post on the right (east) side of the road. From the witness post walk 17 paces due north to the 0-foot stake. The study is marked with green, steel fenceposts approximately 12-18 inches in height.

Map name: Tom Patterson CanyonTownship 14S, Range 24 E, Section 34

Diagrammatic Sketch

UTM. 4380458.602 N, 652854.084 E

DISCUSSION

Trend Study 10R-5

The Lower Tom Patterson Point study is located about 2 miles north of the Upper Tom Patterson Point study (10R-8). This area was chained in the late 1960's and was burned by a wildfire in the mid-1980's. Aspect is north with a gentle 3-5% slope and an elevation of about 7,100 feet. A water tank is located about ½ mile south of the site where water must be hauled to it. Water tanks are scattered along this entire point in an attempt to better distribute livestock use. Pellet transect data from 1997 estimated 143 elk, 22 cow, and 1 deer day use/acre (353 edu/ha, 54 cdu/ha and 3 ddu/ha). Use declined in 2000 with 101 elk, 14 cow and 1 deer day use/acre estimated (250 edu/ha, 35 cdu/ha and 3 ddu/ha). Elk use appears to have taken place during winter. This area is within the Sweetwater allotment which permits cattle grazing from June through September on a deferred rest rotation basis.

Soil on the site is moderately deep with an effective rooting depth estimated at nearly 17 inches. There is very little rock in the upper soil profile. Soil textural analysis indicates a sandy clay loam with a neutral pH. Potassium is low at just 38 ppm, where values less than 70 ppm may limit normal plant growth and development. Some slight pedestaling has occurred in the past although there was no sign of recent erosion and protective ground cover is adequate to protect the soil.

Shrubs are scarce but some browse species are slowly returning following the fire. Shrubs encountered on the site include small numbers of mountain big sagebrush, true mountain mahogany, snowberry, broom snakeweed, dwarf rabbitbrush, and rubber rabbitbrush. All shrubs combined produced less than 1% cover in 1997 and 2000. Point-center quarter data from 1997 estimated only 5 pinyon and 5 juniper trees/acre. The trees are all less than 3 feet in height.

Perennial grasses dominate the site and currently ('00) provide 84% of the vegetative cover. The dominate species is crested wheatgrass, which was seeded after the fire. It is present in nearly every quadrat and has an estimated cover value of nearly 14% in 1997 and 18% in 2000. Other grasses occur only rarely and include: a sedge, Russian wildrye, Sandberg bluegrass, needle-and-thread, and smooth brome. No utilization of grasses was apparent in 1997 but use was light to moderate during the 2000 reading. A variety of forbs found on the site offer additional preferred spring and early summer forage. Common species include: thistleleaf penstemon, lobeleaf groundsel, and scarlet globe mallow.

1997 APPARENT TREND ASSESSMENT

There is no apparent erosion. Low levels of soil potassium may be a limiting factor on the site. Few browse species are present with mountain big sagebrush having an estimated density of 180 plants/acre. Other species are slowly returning, but are in very low densities. Crested wheatgrass is the dominate grass providing 73% of the total vegetative cover. Other grasses and forbs are present, but are mostly incidental.

2000 TREND ASSESSMENT

Trend for soil is stable. Relative cover of bare ground is similar to 1997 estimates and herbaceous frequency and cover are more than adequate to protect the soil from erosion. There are few shrubs on the site and trend is considered down slightly with a decline in the already low density of mountain big sagebrush and mahogany. Currently, all shrubs combined produce less than 1% cover. Trend for the herbaceous understory is considered stable. Sum of nested frequency of the dominant grass, crested wheatgrass, declined significantly but quadrat frequency remained high at 97% and cover increased from 14% to 18%. Sum of nested frequency of all grasses combined declined slightly. Frequency of forbs also declined slightly but cover remained similar. This change

is obviously caused by the dry conditions of this season. Herbaceous vegetation is still abundant and vigorous and it provides nearly all of the vegetation cover on the site. The slight decline in nested frequency of grasses and forbs is not enough to warrant a downward trend.

TREND ASSESSMENT

soil - stable (3)

browse - down slightly with few shrubs present (2)

herbaceous understory - stable (3)

HERBACEOUS TRENDS --

Herd unit 10R, Study no: 5

Type	Species	Nested Frequency		Quadrat Frequency		Average Cover %	
		'97	'00	'97	'00	'97	'00
G	Agropyron cristatum	434	*397	99	97	13.75	17.73
G	Agropyron intermedium	-	5	-	2	-	.03
G	Bromus inermis	3	-	1	-	.03	-
G	Carex spp.	25	28	12	11	.33	.49
G	Elymus junceus	2	-	1	-	.15	-
G	Poa secunda	8	8	4	2	.09	.03
G	Stipa comata	-	3	-	1	-	.03
Total for Annual Grasses		0	0	0	0	0	0
Total for Perennial Grasses		472	441	117	113	14.35	18.32
Total for Grasses		472	441	117	113	14.35	18.32
F	Antennaria rosea	7	*14	3	8	.33	.38
F	Arabis spp.	10	3	5	1	.02	.03
F	Astragalus convallarius	4	-	2	-	.06	-
F	Astragalus spp.	4	13	3	6	.04	.40
F	Astragalus utahensis	-	3	-	2	-	.01
F	Chaenactis douglasii	1	-	1	-	.00	-
F	Erigeron spp.	8	7	4	3	.07	.04
F	Eriogonum spp.	-	1	-	1	-	.00
F	Gutierrezia sarothrae	3	-	1	-	.00	-
F	Hedysarum boreale	33	*-	13	-	.82	-
F	Lygodesmia spp.	4	-	2	-	.03	-
F	Machaeranthera spp	25	*-	10	-	.17	-
F	Penstemon spp.	6	*-	4	-	.07	-
F	Penstemon pachyphyllus	81	*52	36	24	1.23	.74
F	Phlox austromontana	8	12	4	3	.21	.06
F	Phlox longifolia	-	3	-	1	-	.00

T y p e	Species	Nested Frequency		Quadrat Frequency		Average Cover %	
		'97	'00	'97	'00	'97	'00
F	Senecio multilobatus	46	*70	20	31	.24	.48
F	Sphaeralcea coccinea	49	60	22	27	.38	.36
F	Taraxacum officinale	24	*9	11	5	.23	.05
F	Tragopogon dubius	15	*46	6	20	.03	.15
Total for Annual Forbs		0	0	0	0	0	0
Total for Perennial Forbs		328	293	147	132	3.99	2.73
Total for Forbs		328	293	147	132	3.99	2.73

* Indicates significant difference at % = 0.10

BROWSE TRENDS --

Herd unit 10R, Study no: 5

T y p e	Species	Strip Frequency		Average Cover %	
		'97	'00	'97	'00
B	Artemisia tridentata vaseyana	6	2	.38	.38
B	Cercocarpus montanus	2	1	.15	-
B	Gutierrezia sarothrae	1	0	.01	.45
B	Chrysothamnus nauseosus	1	1	-	-
B	Chrysothamnus viscidiflorus	2	10	-	-
B	Symphoricarpos oreophilus	2	2	.00	.00
Total for Browse		14	16	0.54	0.84

BASIC COVER --

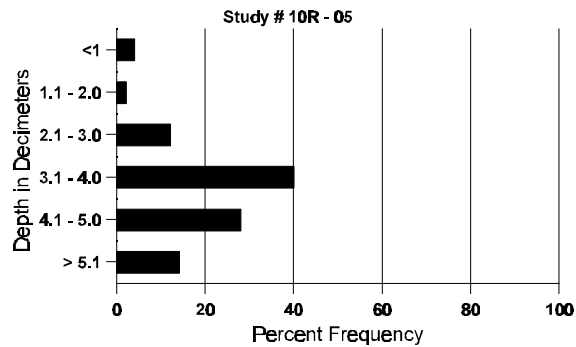
Herd unit 10R, Study no: 5

Cover Type	Nested Frequency		Average Cover %	
	'97	'00	'97	'00
Vegetation	444	418	20.14	28.12
Rock	83	28	1.58	.43
Pavement	248	183	7.10	2.22
Litter	500	495	24.71	33.69
Cryptogams	152	129	1.08	2.92
Bare Ground	388	435	27.13	35.46

SOIL ANALYSIS DATA --
Herd Unit 10R, Study no: 05

Effective rooting depth (inches)	Temp °F (depth)	PH	% sand	% silt	% clay	%OM	PPM P	PPM K	dS/m
16.9	60.6 (17.7)	6.8	48.0	28.8	23.2	3.11	7.41	38.4	2.0

Stoniness Index



PELLET GROUP FREQUENCY --
Herd unit 10R, Study no: 5

Type	Quadrat Frequency	
	'97	'00
Rabbit	3	5
Elk	70	58
Deer	2	5
Cattle	4	3

Pellet Transect			
Pellet Groups per Acre		Days Use per Acre (ha)	
'97	'00	'97	'00
-	9	-	N/A
1861	1314	143 (353)	101 (250)
17	9	1 (2)	1 (2)
261	165	22 (54)	14 (35)

BROWSE CHARACTERISTICS --

Herd unit 10R, Study no: 5

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Artemisia tridentata vaseyana																		
S	97	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3	
	00	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2	
Y	97	5	-	-	-	-	-	-	-	-	5	-	-	-	100		5	
	00	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
M	97	3	1	-	-	-	-	-	-	-	2	2	-	-	80	26 31	4	
	00	1	-	-	-	-	-	-	-	-	1	-	-	-	20	33 35	1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'97		11%			00%			00%			-78%							
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'97	180	Dec:				
												'00	40					
Cercocarpus montanus																		
M	97	-	2	-	-	-	-	-	-	-	2	-	-	-	40	38 35	2	
	00	-	-	-	-	-	1	-	-	-	1	-	-	-	20	37 35	1	
X	97	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1	
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'97		100%			00%			00%			-50%							
'00		00%			100%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'97	40	Dec:				
												'00	20					
Chrysothamnus depressus																		
M	97	1	-	-	-	-	-	-	-	-	1	-	-	-	20	7 16	1	
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0	- -	0	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'97		00%			00%			00%										
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'97	20	Dec:				
												'00	0					
Chrysothamnus nauseosus																		
M	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0	- -	0	
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0	14 17	0	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'97		00%			00%			00%										
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'97	0	Dec:				
												'00	0					

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Chrysanthamnus viscidiflorus																		
M	97	1	-	-	-	-	-	-	-	-	1	-	-	-	20	8	14	1
	00	1	-	-	-	-	-	-	-	-	1	-	-	-	20	-	-	1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'97		00%			00%			00%			+ 0%							
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)														'97	20	Dec:	-	
														'00	20		-	
Gutierrezia sarothrae																		
S	97	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	00	1	-	-	-	-	-	-	-	-	1	-	-	20			1	
Y	97	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	00	2	-	-	-	-	-	-	-	-	2	-	-	40			2	
M	97	2	-	-	-	-	-	-	-	-	2	-	-	40	7	6	2	
	00	10	-	-	1	-	-	-	-	-	11	-	-	220	7	9	11	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'97		00%			00%			00%			+85%							
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)														'97	40	Dec:	-	
														'00	260		-	
Symphoricarpos oreophilus																		
M	97	1	-	-	-	-	-	-	-	-	1	-	-	20	34	36	1	
	00	-	1	-	-	-	-	-	-	-	1	-	-	20	-	-	1	
D	97	1	-	-	-	-	-	-	-	-	1	-	-	20			1	
	00	-	1	-	-	-	-	-	-	-	1	-	-	20			1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'97		00%			00%			00%			+ 0%							
'00		100%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)														'97	40	Dec:	50%	
														'00	40		50%	